

REMARKS

Amendments

Claim 1 is amended to recited that at least one of the first or second propeptides is heterologous to the collagen chain; see Examples E, F and G at p.13-14. Claim 4 is amended to recite that both the first and second propeptides are heterologous to the collagen chain; see Example G at p.14. Claims 7 and 18 are amended for antecedence. New claims 21-23 recite specific embodiments of Examples E, F and G at p.13-14. These amendments do not change the scope or subject matter of the claims, and introduce no new matter.

35USC112, first paragraph, enablement

The test for enablement is whether the specification enables one skilled in the art to practice the invention as claimed without undue experimentation. Here the Specification amply teaches and exemplifies a diverse variety of suitable propeptides in addition to the natural propeptide (e.g. Specification, p.5, lines 15-21; Example 2F at p.13, line 36 – p.14, line 21; Example 2G at p.14, lines 23-35). Following the guidance and exemplification of this disclosure one of ordinary skill in the art would have no difficulty practicing the claimed invention without undue experimentation, and there is no evidence or reason of record to the contrary.

The Action proposes that “the art makes it clear that the presence of a natural C-terminal propeptide in a procollagen molecule is absolutely necessary for correct disulfide bond formation, glycosylation and triple helix formation.” However, our claims do not recite or require any disulfide bond or triple helix formations. Our claims recite and require a single procollagen polypeptide “chain” – not a triple helix of three chains disulfide bonded together. We also note that the proposal goes beyond any support in the cited references, and is not technically correct; see, e.g. Zhang et al., J. Biol. Chem., Vol. 276, Issue 23, 19862-19870, June 8, 2001 (attached), esp. Fig. 8 and related discussion.

35USC101, 102, 103 and 112, second paragraph

The claims are believed to be free of these other stated rejections.

Respectfully submitted,
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